



DART
AEROSPACE



Note: DWG REV D SHEETS 1,3,4 IPP Rev:A new issue DD 10.03.23 verified by:EC IPP Rev:B as per dwg revB DD 10.04.20 verified by:EC IPP Rev:C as per dwg revC DD 10.08.18 verified by:EC IPP Rev D 12.03.27 per NCR12-1239 EC verified by:JLM

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Setup Run hrs	Worker/Supplier	Lead Time
90	Start up Operation	1 Ea	9/28/18	0.00	0.00	Start Up Stores/Pkg-1	
100	Packaging	1 pcs	9/28/18	0.00	0.00	Packaging1-4	
110	HandFinish	1 pcs	9/28/18	0.00	1.03	HandFinish4	
120	QC	1 pcs	9/28/18	0.00	0.00	QC5	
130	Packaging	1 pcs	9/28/18	0.00	0.00	Packaging3-2	OCT 0 4 2018
140	QC21-SA	1 Ea	9/28/18	0.00	0.00	QC21	

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
AN3-14A	Bolt	4 Ea (4 ea)	90-Start up Operation	5068652
AN3-10-4	Bolt	2 Ea (2 ea)	90-Start up Operation	5069226
AN310C4	Nut	3 Ea (3 ea)	90-Start up Operation	5062504
AN4-12	Bolt	2 Ea (2 ea)	90-Start up Operation	5065262
AN5-17A	Bolt	4 Ea (4 ea)	90-Start up Operation	5064206
D2530	Handle Weldment	1 Ea (1 ea)	90-Start up Operation	5068640
D2535	Spring	2 Ea (2 ea)	90-Start up Operation	5097106
D2537	Bushing	2 Ea (2 ea)	90-Start up Operation	5097228
D3917-34	Washer	6 Ea (6 ea)	90-Start up Operation	5115446
D3953-17	Gas Spring Spacer	2 Ea (2 ea)	90-Start up Operation	5072726
D3953-19	Gas Spring Bracket	1 Ea (1 ea)	90-Start up Operation	5068384
D3953-21	Gas Spring Bracket	1 Ea (1 ea)	90-Start up Operation	5068380
D3953-34	Gas Spring Stud, Lid	2 Ea (2 ea)	90-Start up Operation	5112584
D3953-7	Spring Spacer	2 Ea (2 ea)	90-Start up Operation	5097232
D3953-9	Gas Spring Washer	2 Ea (2 ea)	90-Start up Operation	5115394
D3969-3	Spring (Basket Lid)	1 Ea (1 ea)	90-Start up Operation	5078207
MS21042L3	Nut	6 Ea (6 ea)	90-Start up Operation	5078253
MS21042L5	Nut	4 Ea (4 ea)	90-Start up Operation	5083541
MS24665-151	Cotter Pin	3 Ea (3 ea)	90-Start up Operation	5053954
MS24665-300	Cotter Pin	2 Ea (2 ea)	90-Start up Operation	5074188-1
NAS1149C0432R	Washer	2 Ea (2 ea)	90-Start up Operation	5050052-1
NAS1149F0332P	Washer	8 Ea (8 ea)	90-Start up Operation	5103666-1

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____							
Misidentified ☐	☐ Past Due								

NAS1149F0432P	Washer	6 Ea (6 ea)	90-Start up Operation
NAS1149F0563P	Washer	4 Ea (4 ea)	90-Start up Operation
D3913-041	Long Basket Base Assembly, 350	1 Ea (1 ea)	110-HandFinish
D3914-041	Long Basket Lid Assembly (350)	1 Ea (1 ea)	110-HandFinish

5083538-1
506790-2
511150
511127

Job Allocations

005734

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	AN3-14A	4	110	0
	AN3-16A	2	126	0
	AN310-4	3	126	0
	AN310C4	2	154	0
	AN4-12	3	84	0
	AN5-17A	4	118	0
	D2530	1	5	0
	D2535	2	62	0
	D2537	2	20	0
	D3917-3	6	43	0
	D3953-17	2	27	0
	D3953-19	1	19	0
	D3953-21	1	13	0
	D3953-3	2	10	0
	D3953-7	2	26	0
	D3953-9	2	11	0
	D3969-3	1	10	0
	MS21042L3	6	3,516	0
	MS21042L5	4	1,050	0
	MS24665-151	3	269	0
	MS24665-300	2	134	0
	NAS1149C0432R	2	2,835	0
	NAS1149F0332P	8	1,693	0
	NAS1149F0432P	6	1,781	0
	NAS1149F0563P	4	994	0
110-HandFinish	D3913-041	1	3	0
	D3914-041	1	4	0

Part Specifications

Specifications could not be found.

DART
AEROSPACE

Container No: S115485



Part: D4030-041

Job No: 182732

Serial No/Batch: S115485

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 10/03/18

Plex 8/30/18 1:23 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																				
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																				
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																				
Large Fab ☐	Composite ☐	Supplier ☐																																																																					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																																
Description Work Order Deviation				Disposition																																																																			
								Completed By																																																															
								Lead hand / Supervisor Approval Verification																																																															
								QC / QA Coordinator Approval																																																															
Root Cause <table style="width:100%; border: none;"> <tr><td>Environment ☐</td><td>No Re-verification ☐</td></tr> <tr><td>Design ☐</td><td>Operator ☐</td></tr> <tr><td>Doc/Data ☐</td><td>Offset/Setup ☐</td></tr> <tr><td>Equip/Tooling ☐</td><td>Supplier ☐</td></tr> <tr><td>Handling/Pre ☐</td><td>Training ☐</td></tr> <tr><td>Material ☐</td><td>Use for Testing ☐</td></tr> <tr><td>Internal Transport ☐</td><td>Poor Information ☐</td></tr> <tr><td>Tribal Knowledge ☐</td><td>Rushing ☐</td></tr> <tr><td>LOA ☐</td><td>Product Improvement ☐</td></tr> <tr><td>Substation ☐</td><td>Process Improvement ☐</td></tr> <tr><td>Past Expiry Date ☐</td><td>Manufacturing Process ☐</td></tr> <tr><td>Misidentified ☐</td><td>Past Due ☐</td></tr> </table>		Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="width:25%;">Pressure/Forced ☐</td> <td style="width:25%;">Temperature/Cure ☐</td> <td style="width:25%;">Power Loss/Surge ☐</td> <td style="width:25%;">Positioned Wrong ☐</td> </tr> <tr> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> </table>						Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Environment ☐	No Re-verification ☐																																																																						
Design ☐	Operator ☐																																																																						
Doc/Data ☐	Offset/Setup ☐																																																																						
Equip/Tooling ☐	Supplier ☐																																																																						
Handling/Pre ☐	Training ☐																																																																						
Material ☐	Use for Testing ☐																																																																						
Internal Transport ☐	Poor Information ☐																																																																						
Tribal Knowledge ☐	Rushing ☐																																																																						
LOA ☐	Product Improvement ☐																																																																						
Substation ☐	Process Improvement ☐																																																																						
Past Expiry Date ☐	Manufacturing Process ☐																																																																						
Misidentified ☐	Past Due ☐																																																																						
Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																																																																				
Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																				
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																																																																				
Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																																																																				
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																				
Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																				
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																				
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																				
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																				
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																				
		OTHER : _____																																																																					